

REMARKS

Favorable reconsideration and allowance of the present application is respectfully requested.

Currently, claims 1-2, 5-15, 23, and 29-35, including independent claims 1 and 23, are pending in the present application. For instance, independent claim 1 is directed to a multi-component liquid that comprises a first filter element and a second filter element. The second filter element has a pleated surface having a surface contact area greater than the surface contact area of the first filter element. The pleated surface of the second filter element comprises pleats having an average pitch from about 0.0625 to about 5 inches. The first filter element contains a charge-modified material. The second filter element contains a laminate having two or more layers of filter media.

In the Office Action, independent claim 23 was initially rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,422,396 to Li, et al. Li, et al. is directed to a coalescing filter element for separating water from hydrocarbon fluids, such as aviation fuel. As shown in Figs. 4 and 6, the filter element includes a pleated prefilter section 1 that preferably consists of five layers, i.e., three nonwoven layers 22, 23, and 24 of a hydrophilic material (e.g., glass fiber filter media) and two open mesh screen layers 21 and 25. (Col 6, ll. 55-67 and Col 7, ll. 1-24). The purpose of the prefilter section is to stop particulates from being captured in a coalescer bun 2. As shown in Fig. 4, the coalescer bun 2 is made from three hydrophobic layers 10, 11, and 12 wrapped around the exterior of a tube 5. (Col 7, ll. 40-48). Layer 10 is made from polypropylene, and layers 11 and 12 are made from polyester. (Col 7, ll. 49-63).

Li, et al. fails to disclose various limitations of independent claim 23. For instance, claim 23 requires that the filter element with constant radius circumferential surfaces (e.g., generally planar) contains a charge-modified material. As recited in the present application, the use of “charge-modified” materials can enhance the removal of certain types of contaminants, such as microorganisms. Examples of such charge-modified materials include charge-modified microfiber glass, charge-modified nonwoven webs, etc. One particular example is a nonwoven charge-modified meltblown web formed from hydrophobic polymer fibers, amphiphilic macromolecules, and cationic functionalized polymers (i.e., positively charged). To the contrary, Li, et al. fails to disclose the use of a “charge-modified” material in a filter element with constant radius circumferential surfaces. Thus, for at least this reason, Applicants respectfully submit that independent claim 23 is not anticipated by Li, et al.

With respect to independent claim 1, Li, et al. was combined with U.S. Patent No. 4,033,881 to Pall, et al. to reject claim 1 under 35 U.S.C. §103. Specifically, it was acknowledged that Li, et al. failed to disclose the use of pleats having an average pitch from about 0.0625 to about 5 inches. Nevertheless, Pall, et al. was said to disclose such an average pitch. Even if true, however, neither Pall, et al. nor Li, et al. disclose the use of a “charge-modified” material for the first filter element as set forth in claim 1.

Moreover, no motivation would have existed for one of ordinary skill in the art to modify Li, et al. with a “charge-modified” material. For instance, even assuming *arguendo* that the prefilter section 1 of Li, et al. corresponds to the second filter element and that the coalescer bun 2 of Li, et al. corresponds to the first filter element, no motivation would have existed to modify the coalescer bun 2 of Li, et al. with a “charge-

modified" material. The purpose of the coalescer bun 2 is to break up the micro-emulsion of water and hydrocarbon fluids caused by surfactants and to develop large water droplets. For this purpose, Li, et al. uses three hydrophobic layers made from polypropylene or polyester. There is simply no motivation to substitute these materials for a "charge-modified" material, particularly in view of the fact that Li, et al. repeatedly emphasizes their importance in obtaining the desired coalescence. Thus, for at least these reasons, Applicants respectfully submit that independent claim 1 patentably defines over to Li, et al. and Pall, et al., taken singularly or in any proper combination.

In addition, the above-cited references were also cited in various combinations, and in conjunction with U.S. Patent Nos. 5,092,990 to Muramatsu, et al.; 5,798,049 to Proulx; and 6,475,340 to Carlson, et al., to reject dependent claims 2, 5-15, and 29-34. Applicants respectfully submit, however, that at least for the reasons indicated above relating to corresponding independent claims 1 and 23, claims 2, 5-15, and 29-34 patentably define over the reference cited. However, Applicants also note that the patentability of dependent claims 2, 5-15, and 29-34 does not necessarily hinge on the patentability of independent claims 1 and 23. In particular, some or all of these claims may possess features that are independently patentable, regardless of the patentability of claims 1 and 23.

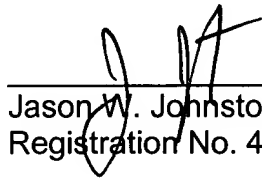
In summary, Applicants respectfully submit that the present claims patentably define over all of the prior art of record for at least the reasons set forth above. As such, it is believed that the present application is in complete condition for allowance and favorable action, therefore, is respectfully requested. Examiner Menon is invited and

encouraged to telephone the undersigned, however, should any issues remain after consideration of this response.

Please charge any additional fees required by this Amendment to Deposit Account No. 04-1403.

Respectfully requested,

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